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AUTHOR Ford, John J., III; And Others
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ABSTRACT

Intended to assist in the development of instructional products that can be used without direction or assistance from the developer, this guide identifies and describes in a systematic yet flexible approach steps in the product development process. These steps, called phases, serve as chapter headings: Phase I--Clarifying the Need; Phase II--Creating the Prototype; Phase III--Critiquing the Product; Phase IV--Changing the Product; Phase V--Disseminating the Product. Checklists showing the options the developer has in deciding who will do what part of the master copy are included, and sample worksheets and charts are provided in the appendices. The techniques described have been field-tested and refined by the authors. (Author/JD)

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A GUIDE TO DEVELOPING EDUCATIONAL PRODUCTS

by

John J. Ford III, et al

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For additional information about this and other NETWORK products, please write:

Dr. David P. Crandall
Executive Director
The NETWORK
290 S. Main St.
Andover, Ma. 01810

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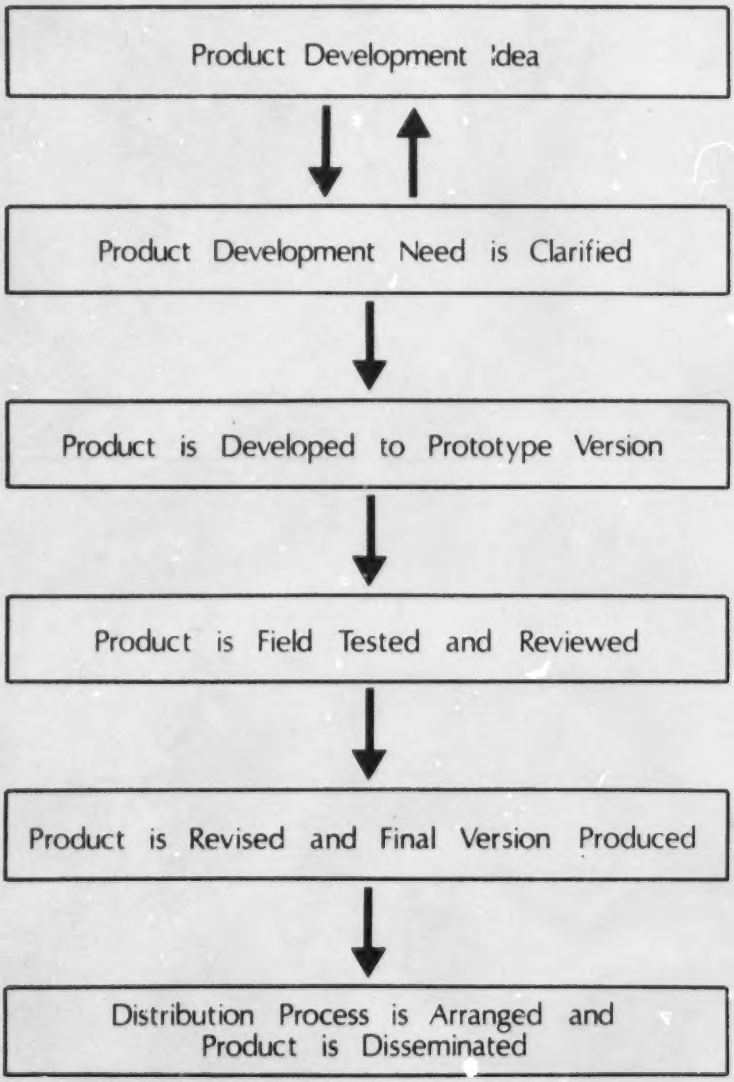
PRODUCT DEVELOPMENT PROCESS


Product Development Idea
Product Development Need is Clarified
Product is Developed to Prototype Version
Product is Field Tested and Reviewed
Product is Revised and Final Version Produced
Distribution Process is Arranged and Product is Disseminated

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INTRODUCTION

Product development is the process of transforming an initial idea into a usable product. A product is distinguished from other materials by the fact that it can be used without direction or assistance from the developer.

Practitioners in education are often charged with the development of instructional products. This guide is intended to assist in the development of such products. It presents a systematic approach that identifies steps in the process, important decision points and helps the reader to produce a final product that meets his/her needs or purposes.

It must be realized that any systems approach to a creative process is reconstructed logic. Although the steps are presented in a sequential order, they are most importantly considerations or guides to the product development process. These steps are intended to be flexible and interchangeable.

PHASE I:
CLARIFYING THE NEED

IDENTIFY THE NEED

Why develop a product? The product development process usually begins when you, the developer, merely think of something that seems like a good idea or when you perceive a need for a specific product. Your awareness of this need may range from vague instinct to firm conviction.

Before investing time and other resources in the development process, it is important to clarify whether there actually is a need for the proposed product. When you get an idea for a product, ask yourself what need it will fulfill. Once you have answered this question for yourself, it might be helpful to describe your ideas in the form of a problem statement and to ask other professionals whether they agree with this statement. As you proceed with the development process, this problem statement will help you maintain your focus on the original need by providing a standard against which you can periodically check the product as it evolves.

INVESTIGATE THE AVAILABILITY OF SIMILAR PRODUCTS

Are similar products available? Before beginning the time consuming business of developing your idea into a product, you should find out whether it has already been developed by someone else. Nothing is more deflating than to work on a product for months only to find that it is already available commercially.

You can find out what is already available by looking through publishers' catalogues, checking journals and talking with people who are likely to have encountered similar resources. Remember, the real purpose of product development is to answer a need. If you discover an existing product that adequately serves the need that you have defined, your time would be better spent in considering other product ideas.

IDENTIFY CHARACTERISTICS OF THE INTENDED AUDIENCE

Who will be using your product and what are they like? The people who use a product are referred to as a target audience. Your product may be intended for an audience composed of one or more of the following groups: students, teachers, administrators, and/or parents.

There are many audience characteristics you will need to identify before starting the development process: age, learning style, learning difficulties, and levels of skill and knowledge. In what settings will the audience be likely to use the product? How much does it need or want to know about the subject you are addressing? How much time will it realistically be able or willing to invest in learning from the product? This information will serve as a guideline for the development of your product. The closer your product design meets the needs of its intended audience, the higher its probability of success.

With the target audience in mind, the need for the product certain and the assurance that you are not reinventing the wheel, you are ready to begin creating...

PHASE II:
CREATING THE PROTOTYPE

DEVELOP OBJECTIVES FOR THE PRODUCT

The first phase of development is to write objectives for your product. Listing them at this point in the process serves to guide your thinking about the product itself. Although they may change or expand as the product takes shape, initial statements of objectives will help keep you in the track during the complex creative stage. Your objectives may be based on performance, behavior or achievement outcomes. They should include both skill and knowledge objectives.

An example of an initial objective is the one chosen for this booklet: "To create a simple but comprehensive guide for educators engaging in product development for the first time."

DECIDE ON THE MEDIUM

Choosing a medium for your product is one of the most important decisions to be made. Your choices will include film, print, audio cassettes, multi-media packages, video tapes, and games. The decision should be based on a number of considerations. First, the audience. What are they most likely to learn from? What can they afford? If you select an audio-visual medium, will the audience have access to the needed equipment? What are your own resources and capabilities? Your choice of medium should be a realistic one for you and your colleagues to undertake, unless you are in a position to hire others to do work in which you are not skilled.

Once you have decided on the format, you should obtain the necessary clearances to develop your product. This could include approval from your supervisors, federal clearance in the case of federally-funded projects, talent releases, and copyright releases.

OUTLINE THE COMPONENT PARTS

At this phase of the process, you should begin to conceptualize the entire product by identifying major sections and the sequence in

which they ought to be presented. All of the information to be contained in the product should be outlined within the sections, keeping in mind the overall product objectives as well as the objectives for each section.

A sample outline might appear as follows:

1. *Product description: general description of the product including chosen medium, target audience, number of sections, how these sections will be subdivided and content overview.*
2. *Product objectives: statement of objectives for product as a whole.*
3. *For each section (or unit) list the following:*

    A) general content description

    B) specific objectives for the section

    C) description of section format, sequence of section segments, and a separate description for each proposed section including:

        1) visuals

        2) expository materials

        3) teacher/pupil involvement such as questions, hands-on activities, games.

PLAN THE DEVELOPMENT SCHEDULE

Using the outline of the component parts of the product, you should now create a schedule that identifies work to be done, people responsible, and due dates. The schedule at this point can be limited to detailing the work to be done in developing the draft, but subsequent steps should be noted. The developmental steps which should be included in this schedule are "Clarifying the Need", "Creating the Prototype", "Critiquing the Product", "Changing the Product" and "Disseminating the Product". Appendix A provides a sample form which can be used to record the schedule.

DEVELOP THE DRAFT

After the work has been divided by sections according to the outline, drafts of each component part should be prepared. There are basically two methods for developing the draft. One way is for your entire development staff to work together developing each section. A second alternative, which is less time consuming, is to divide the staff into small working teams by section. Each team takes responsibility for the development of one or more sections. Once the sections are completed, they are shared by the full staff in order to make additional changes and to insure consistency between sections.

PRODUCE A USABLE PROTOTYPE

After the draft has been written and edited, a prototype can be made which will be used to send out for review or to field test the product with sample audiences. Though not as polished as the final version, the prototype should be produced with some attention to design, layout, typeface and quality of reproduction. Prototype print materials can generally be produced in mimeograph or Xerox form. Audio-visual materials may have to be produced in close to final form before they can be reviewed or tested. For example, a filmstrip should be presented as a slide-tape. In the case of film, an edited workprint with synchronized sound on magnetic tape should be presented. A final print with an optical sound strip should only be produced after all final review and test inputs have been incorporated into the editing.

Cost is an important factor when considering the means of producing enough copies of the prototype product and any accompanying instructor's manual for field testing and review. Given the amount of money available for production of the prototype and the number of copies you need, you should try to produce a version as close to your anticipated final version as possible.

PROTECT YOUR PROTOTYPE

Products being released for field testing and review should be clearly marked as "DRAFT VERSION" or "FIELD TEST VERSION" and should have the copyright symbol (c) affixed. It is perfectly legal to use the copyright symbol before applying for copyright. For further information on copyright, see Phase V.

DEVELOP AN INSTRUCTOR'S MANUAL

With student instructional or teacher training products, it is generally desirable to have an instructor's manual accompanying both prototype and final version of a product. This manual should contain instructions for using the product, prerequisites and background material, suggestions for the instructor on discussion questions, sequence, and pacing. Information concerning the assumptions and objectives on which the material is based can be included as well as any cautions or disclaimers.

PHASE III:
CRITIQUING THE PRODUCT

PRODUCT CRITIQUE FACTORS

When you have completed the prototype version of your product, you will need to get some feedback regarding its usefulness. Some of the factors commonly considered when having a product critiqued are outlined below:

1. *CONTENT*
   - A. *Appropriateness: Are the subject matter and related activities appropriate to the target audience? Is the manner of presentation appropriate?*
   - B. *Correctness: Is the information presented by the product correct; if it is controversial, can it be documented by acceptable authorities?*
2. *OBJECTIVES*
   - A. *Clarity: Are the objectives stated in a clear and simple fashion?*
   - B. *Appropriateness: Are the objectives approprate to the target audience?*
3. *SCOPE*
   - A. *Adequacy for objectives: Is the scope of the information presented adequate to achieve the stated objectives of the product and appropriate for learning levels of the intended audience?*
   - B. *Content relevance: Is the scope of the product an adequate and appropriate presentation of the subject matter? Is there so much information that the intended audience might become confused and lose sight of the main points outlined in the objectives?*
   - C. *Activities: Are activities suggested throughout which will expand comprehension of the content?*

4. *SEQUENCE*

A. Logic: Are the sections of your product and the information in these sections presented in a sequence that makes sense?

B. Ease of Comprehension: Is the sequence of information easy for the intended audience to follow? Will it facilitate understanding of the content?

5. *INSTRUCTOR'S MANUAL*

A. Background: Is enough background content information provided to familiarize even an inexperienced instructor with the subject matter? Is it clearly presented?

B. Instructions: Are instructions for the product clearly stated and well organized? Will the instructor know how to use the materials effectively, step by step? Are there effective pacing suggestions, e.g., how and when to present sections and materials, how much time to spend on each section, how to adjust the pacing for different types of students?

6. *TECHNICAL CONSIDERATIONS*

A. Choice of Production Technique: Given the size and composition of the target audience, the nature of the subject matter and the need that the product serves, have the developers chosen the best production technique available while keeping within a realistic budget?

B. Quality: Is the overall quality of the product good? "Good" does not necessarily mean "expensive". An expensively printed brochure, for example, may be less well designed and executed than a well thought out publication that has been produced on office printing

equipment. The question really is, "has the highest quality job been done that is possible, given the choice of production technique?" Some elements to look for are: overall format, page design, choice of type, color quality, sound quality and visual rhythm.

7. CONSISTENCY

A. Objectives: Are the content and activities consistent with the objectives?

B. Sections: Are the sections of the product organized in consistent fashion? Is the structure of each section parallel to the structure of the other sections?

C. Activities: Are the activities for each section consistent with each other and with the content of that section?

8. ADDITIONAL MATERIALS

Are there any additional sections or activities which would improve the product?

INTERNAL REVIEW

The first step towards obtaining feedback on your product is a personal review. A few weeks after you have finished the prototype, take another critical look at it. Given this time lapse, you will probably find parts that should be changed.

After you have made your changes, show the product to some close colleagues and ask them for suggested changes. They will more likely identify changes that you missed or perhaps never even considered. Weigh their suggestions carefully before making any changes. Ask yourself, "Will these changes help improve my product as I intended it to be used?" When you have gathered and analyzed the comments of your colleagues, make the changes in your product that seem necessary.

ARRANGE FOR EXPERT REVIEW

The purpose of expert review is to have your product critiqued by people who have a clear understanding of the content of your product and the audience for whom it is intended. This review provides you with revision suggestions both from theoreticians and from prospective users of your product.

Before you send your product out for review, it is important to establish guidelines for the reviewers. This usually means developing some type of a feedback instrument which explains the purpose of your product and identifies the aspects of your product that you want the reviewer to provide direct feedback on. These feedback instruments are often in the form of a questionnaire. Not only do such instruments insure that you are getting the kind of feedback that you want, but they are also easier to score, analyze and use for revision purposes. Appendixes B, C, D and E provide sample review instruments.

Once you have established your review guidelines, you will need to choose reviewers who can provide the kinds of feedback that you want. One recommendation is to have your product reviewed by content, technical and instructional process experts.

1. *Content Review*

   Content experts provide feedback on the scope of coverage, the correctness of the information and its appropriateness for the target audience. If the product is related to a field that is particulary controversial, you might want to get reviews from content experts who represent different orientations in the field.

2. *Technical Review*

   The technical reviewer provides reaction to design elements such as page layout, graphics, type size, use of visuals, and format choice. This type of review is particularly important for audiovisual products in which sound, staging, lighting and camera angle are so important.

3 *Instructional Process Review*

The instructional process reviewer provides information regarding such factors as the appropriate sequencing of the sections of the product, the variety of the techniques and activities used and the consistency between the actual product and its objectives.

Using content, technical and instructional process reviewers is only one approach to obtaining a review. Another way is to have your product reviewed by different types of users (e.g., teachers, administrators, and university instructors). In choosing the reviewers for your product, you should first identify the kinds of feedback that you would like, establish guidelines for the review and then choose the reviewers. Other critical factors in this choice are budget and reputation. What can you afford to pay for a review? Do your reviewers come well recommended?

ESTABLISH FIELD TEST PROCEDURES

Field testing involves formal trial and evaluation of your product. The amount of field testing needed is in proportion to the size, scope, cost and complexity of the product. All products should have at least one tryout under field conditions. The results of the tryout should be recorded and retained. Because field testing is an expensive and time consuming process, it is important to identify as few field test sites as is necessary and to have pre-established criteria to judge the effectiveness of your product in these test situations.

The first consideration for field testing is where it will be done. How many and what type of sites will be used in the actual tryouts? The sites chosen should contain a representative sample of the audiences for which the product is intended. Some of the variables that you might weigh when choosing your sites could include population area (urban, suburban, rural), socio-economic level, ability levels of intended audiences and instructional style of users (deductive, inquiry, etc.). It is important to test the product in sites that represent the range of significant variables that might influence its success.

Once you have chosen the field test sites, the next step is to determine the aspects of your product on which you want to collect evaluation data. This involves identifying the types of data you want to collect (content, scope, sequence, technical, etc.), designing the data collection instruments and methods (observations, checklists, interviews, criterion referenced tests, norm referenced tests, video tapes, etc.), and developing the data collection and scoring procedures. Appendixes B, C, D and E provide sample evaluation instruments and a sample scoring sheet.

FIELD TEST ARRANGEMENTS

While you are choosing the field test sites, you will need to make arrangements with administrators at the sites. The first step in this process is to contact the identified sites and arrange meetings with their contact people. At these meetings, the product and its objectives should be identified, the purpose of the tryout explained, and the actual procedures described.

If administrators at the sites agree to participate, arrangements should be made with appropriate personnel at each site outlining the length of the field testing, the actual dates of the trial, the cost to both parties, the number of trials or users requested, any required training, what type of data will be needed and who would be responsible for collecting it. Once all of these factors have been discussed and agreed upon, you should get written approval from the decision-makers at each field test site outlining the specific arrangements and responsibilities. The *Field Test Procedures Checklist* shown in Appendix F serves as a good guideline for negotiating field test arrangements.

ANALYZING DATA FROM FIELD TESTING AND EXPERT REVIEW

After field testing and review have been completed, the data from each of the data sources (e.g., observations, interviews and tests) should be tabulated and scored in order to obtain revision

suggestions. When this is done, all of the data from the different sources should be collapsed in order to make final decisions about revision. The *Critique Analysis Matrix* provided in Appendix G demonstrates one technique for combining data from different sources to make revision decisions.

PHASE IV:
CHANGING THE PRODUCT

DECIDE ON THE REVISIONS NEEDED

Once you have tabulated and summarized all the data from field testing and review, you are ready to begin the actual revision. The process and responsibilities for revision are essentially the same as those described for developing the prototype version.

Look at the revision suggestions and decide what changes are needed in each section of your product and whether these changes will improve your product. The major factors in making revision decisions should be the cost of the change, the time involved in making the change, and whether the change will significantly improve your product's effectiveness. You may find that certain changes are just too expensive and although they would improve the product slightly, the product is easily usable as it is and meets its objectives without making the change.

DEVELOP THE MASTER COPY OF THE PRODUCT

Once the revisions have been made, you can begin developing the final master copy of your product. All distribution copies of your product will be made from this master.

The form of the master copy will depend on the medium you have chosen and who will be responsible for making the distribution copies. The first question to answer is, will the product be entirely created, produced, and distributed "in house" by your own staff, or will some part of the process be subcontracted to other professionals such as a graphic designer or a film producer?

The checklists on the next 3 pages show some of the options you will have in deciding who will do what part of the master. Your staff will generally not include people with the skills necessary to execute many of the steps noted on these checklists. Sometimes, however, a friend or colleague with special skills will be available to give assistance. An art teacher, for instance, may be able to help

with creating charts or drawing cartoons. You will notice that sometimes a light "x" has been used in the "in house staff" column to indicate that although it is improbable, appropriate personnel may possibly be available.

PRINT

MEDIUM	STEPS	WHO			
		IN HOUSE STAFF	DESIGNER/ ARTIST	TYPESETTER	PRINTER
MIMEO or XEROX	DESIGN LAYOUT	X	X		
	DO GRAPHICS/CHARTS	X	X		
	TYPE COPY	X			
	DUPLICATE				
	STAPLING/PERFORATING				

COMMERCIAL PRINTING					
	DESIGN LAYOUT	X	X		X
	SPECIFY TYPE	X	X	X	X
	SET TYPE			X	X
	DO GRAPHICS/CHARTS	X	X		X
	PASTE UP TYPE and GRAPHICS	X	X		X
	SHOOT MASTER NEGATIVES				X
	MAKE PLATES				X
	PRINT				X
	BINDING				X

AUDIO-VISUAL

MEDIUM	STEPS	WHO			
		IN HOUSE STAFF	FREE LANCE PROFESSIONAL	PRODUCTION HOUSE	LABORATORY
AUDIO TAPE	LOCATION TAPING	X	X	X	
	STUDIO TAPING (voice, music)		X	X	
	EDITING	X	X	X	
	SOUND MASTER				X
	PACKAGING			X	X

SLIDE TAPE					
	SHOOT PHOTOS	X	X	X	
	DEVELOP SLIDES				X
	LOCATION TAPING	X	X	X	
	STUDIO TAPING (voice, music)		X	X	
	SELECT PHOTOS	X	X	X	
	EDIT SOUND		X	X	
	SYNCHRONIZE SOUND WITH TAPE (cue synchronizer)		X	X	
	SHOOT TITLES		X	X	X
	SOUND MIX AND MASTER AUDIO TAPE			X	X
	MASTER SLIDES WITH TITLES SUPERIMPOSED				X
	PACKAGING				X

AUDIO-VISUAL CONTINUED

MEDIUM	STEPS	WHO			
		IN HOUSE STAFF	FREE LANCE PROFESSIONAL	PRODUCTION HOUSE	LABORATORY
FILMSTRIP	SHOOT PHOTOS	X	X	X	
	DEVELOP PHOTOS				X
	LOCATION TAPING	X	X	X	
	STUDIO TAPING (voice, music)		X	X	
	SELECT PHOTOS	X	X	X	
	EDIT SOUND		X	X	
	SYNCHRONIZE SOUND WITH TAPE (cue synchronizer)		X	X	X

	SHOOT TITLES		X	X	X
	SOUND MIX and MASTER TAPE with AUDIBLE and INAUDIBLE BEEPS			X	X
	MASTER FILMSTRIP NEGATIVE WITH TITLES				X
	PACKAGING				X

VIDEO TAPE	SHOOT ON LOCATION	X	X	X	
	SHOOT IN STUDIO		X	X	
	ELECTRONIC EDITING			X	
	MASTER VIDEO TAPE				X
	PACKAGING				X

AUDIO-VISUAL CONTINUED

MEDIUM	STEPS	WHO			
		IN HOUSE STAFF	FREE LANCE PROFESSIONAL	PRODUCTION HOUSE	LABORATORY
FILM	SHOOT ON LOCATION	X	X	X	
	SHOOT IN STUDIO		X	X	
	DEVELOP WORKPRINT				X
	TAPE SYNCHRONIZED SOUND		X	X	
	TAPE "WILD" SOUND	X	X	X	
	STUDIO TAPING (narration, music)		X	X	

FILM	EDIT FILM		X	X	
	EDIT SOUND		X	X	
	SHOOT TITLES		X	X	X
	SYNCHRONIZE SOUND WITH FILM		X	X	X
	MIX SOUND TRACKS (music, voice, wild)				X
	CONVERT MAGNETIC SOUND TO OPTICAL SOUND				X
	MASTER NEGATIVE FILM WITH TITLES SUPERIMPOSED AND OPTICAL SOUND TRACK				X

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PHASE V:
DISSEMINATING THE PRODUCT

DECIDE THE MEANS OF DISTRIBUTION

Now that your product is finished, there are three basic alternatives for distribution. These alternatives are 1) using a commercial publisher 2) publishing your product yourself, or 3) publishing it through a public agency.

1. *COMMERCIAL PUBLISHERS*

   The advantages of using a commercial publisher are that the publisher takes care of all details. Publishers manage the printing, maintain the inventory, handle all orders and do the marketing of the product. The disadvantages of using a commercial publisher are that you lose some control over your product and must settle for a royalty as the income from the product. Royalties usually range from 5% to 20% of the retail price of the product depending on the specific agreement between the developer and the publisher.

2. *PUBLISHING YOURSELF*

   If you decide to publish your product yourself, the advantages are that you maintain complete control of all aspects of distribution, from printing to marketing, and receive the net income from the sale of your product. The disadvantages are that it requires a financial investment on your part to publish your product as well as a substantial investment of time to manage the entire distribution process.

3. *PUBLISHING THROUGH A PUBLIC AGENCY*

   Although publishers are usually only willing to publish products that have wide market appeal, public agencies will frequently publish products that appeal to only a limited market. Such agencies will also handle most printing and distribution details. However, you should also consider the fact that public agencies often sell their products at cost, which means little or no income for the developers.

One way to evaluate all the variables which effect your decision on how to distribute your product is to create a simple matrix such as the one shown below. When you have filled in all the boxes with relevant information, you will be able to see at a glance just what factors are most important in making your choice.

	Cost of Printing	Cost of Advertising	Efficiency of Distribution	Projected Profits
Commercial Publisher				
Publish Yourself				
Public Agency				

Once you have made a decision about which means of distribution to use, you should conclude a distribution agreement that outlines responsibilities for printing or production, handling orders, keeping the inventory, marketing the product, and clarify any financial agreements such as royalties.

ARRANGE FOR COPYRIGHT

Copyright is a term describing a body of written law designed to protect the works of authors and artists. Copyrightors have, by law, the sole right to authorize producton, reproduction, adaptation, and in most instances the performance of their works. There are, however, certain limitations on the exclusive rights of producers which allow some reproduction and use without the copyright owner's permission and without payment of a fee. When a work has been published without notice of copyright, it falls into the public domain and becomes public property.

If your product is being produced on state or local funds then the state or local government holds the copyright. No one can hold a copyright on works produced on federal funds unless special permission is granted by the funding agency.

The author of a work is the originator of this work and may obtain copyright protection only for the parts of the work that s/he authored. S/he cannot copyright an idea but can prevent others from stating this idea in the same way. The length of time that a copyright is in effect is for the life of the author plus 50 years.

The following kinds of products may be copyrighted:

Books
Periodicals
Lectures or similar production prepared for oral delivery
Dramatic and dramatico musical compositions
Musical compositions
Maps
Works of art
Reproductions of works of art (such as lithographs)
Drawings or sculptural works of a scientific or technical character
Photographs
Prints, pictorial illustrations and commercial prints or labels
Motion pictures
Sound recordings

Before you apply for copyright, you should make sure that you have not violated the rights of any other copyright holders. If you intend to include in your work a substantial amount of material on which someone else holds the copyright, you must obtain permission to do so from the copyright holder. This permission may or may not entail paying the copyright holder a fee or royalty.

If you intend to use just a sentence or two, or a short paragraph, that is considered "fair use." In such a case, you must refer to the copyright holder in a footnote, such as © McGraw-Hill, 1973.

It is difficult to distinguish between a substantial amount and an excerpt small enough to be considered "fair use." One criterion is whether your use of the material would have the effect of denying the copyright holder future sales of his work. If it does, it probably constitutes infringement of copyright; otherwise, it is not. For example, suppose an abstract of someone's journal article were published in another journal. If that abstract does no more than guide the reader to where they can find the information they want, that is a fair use. If the abstract is so broad that the person can utilize the abstract without referring to the original, that is undoubtedly an infringement.

In order to obtain permission to use copyrighted material, you must check the copyright notice to see who holds the copyright. If an address is not shown, it can be found in one of the two following publications published by the RR Bowker Co.:

Audio Visual Marketplace
Literary Marketplace

Your request to use copyright material should be addressed to the copyright holder and should include the following information:

1. the correct title of the work
2. the amount to be used and a description of it
3. the type of reproduction you intend to use
4. the number of copies you intend to produce
5. how the material will be used
6. how it will be distributed
7. will it be sold or not
8. how long it will be published (e.g., 1 year, 10 years)
9. what fee you are offering to pay for using the material
10. how their titles and credits will appear
11. how and where their copyright notices will appear

If you intend to use in your work any photographs, film, video or audio tapes in which people have performed and/or can be recognized, you must obtain a release from each person.

These forms protect the subject from a violation of their right to privacy. The form should be a statement to the effect that the subject understands that the material is to be published in a particular publication for a particular purpose. It should include the subject's signature indicating permission to use the material without remuneration.

Once you have obtained the necessary releases and permissions, you are ready to proceed with publishing and copyrighting your product. There are three basic steps in securing a copyright.

1. *PRODUCE COPIES WITH COPYRIGHT NOTICE:*
   This notice should be clearly visible on all copies. On a book for instance, it should appear on the title page or the page immediately following. It should include the word "copyright" or the symbol ©, the name of the copyright owner and the year date of publication. For example, ©John Smith 1978.

2. *PUBLISH THE PRODUCT*

3. *REGISTER YOUR CLAIM WITH THE COPYRIGHT OFFICE:*
   This involves filling out a registration form and sending it with 2 copies of your product plus a registration fee to the Copyright Office. There is a different form for each type of product listed above. Be sure to obtain the correct form for your product.

DETERMINE YOUR INVOLVEMENT IN THE DISTRIBUTION PROCESS

The last phase of product development is to determine your own involvement in the eventual distribution of your product. Active involvement could include conducting workshops, doing training in the use of your product, and making yourself available for consulting. If this kind of involvement does not appeal to you, you

can allow the publisher or distributor to handle all distribution activities, or you can participate in only selected activities. Outlining your involvement in advance helps you to plan your own time and helps your publisher to know in which activities you will be involved.

APPENDICES

APPENDIX A

THE PRODUCT DEVELOPMENT PROCESS

	STEPS	RESOURCES NEEDED	PERSON RESPONSIBLE	DUE DATE	COMPLETED
CLARIFYING THE NEED	IDENTIFY THE NEED				
	INVESTIGATE THE AVAILABILITY OF SIMILAR PRODUCTS				
	IDENTIFY CHARACTERISTICS OF THE INTENDED AUDIENCE				
CREATING THE PROTOTYPE	DEVELOP OBJECTIVES FOR THE PRODUCT				
	DECIDE ON THE MEDIUM				
	OUTLINE THE COMPONENT PARTS				
	PLAN THE DEVELOPMENT SCHEDULE				
	DEVELOP THE DRAFT				
	PRODUCE A USABLE PROTOTYPE				
	PROTECT YOUR PROTOTYPE				
	DEVELOP AN INSTRUCTOR'S MANUAL				

CRITIQUING THE PRODUCT	PRODUCT CRITIQUE FACTORS				
	INTERNAL REVIEW				
	ARRANGE FOR EXPERT REVIEW				
	ESTABLISH FIELD TEST PROCEDURES				
	FIELD TEST ARRANGEMENTS				
	ANALYZE DATA FROM FIELD TESTING AND EXPERT REVIEW				

CHANGING THE PRODUCT	DECIDE ON THE REVISIONS NEEDED				
	DEVELOP THE MASTER COPY OF THE PRODUCT				

DISSEMINATING THE PRODUCT	DECIDE THE MEANS OF DISTRIBUTION				
	ARRANGE FOR COPYRIGHT				
	DETERMINE YOUR INVOLVEMENT IN THE DISTRIBUTION PROCESS				

APPENDIX B

SAMPLE NARRATIVE PRODUCT CRITIQUE SHEET

This questionnaire was used for a critique of a case studies manual. The reviewer was asked to provide brief prose answers to the following questions:

SCOPE

1) Is the overall scope of the case studies manual adequate? Are there types of cases you would recommend be added? If so, what type?

2) Is the scope of each chapter—from initial referral to final follow-up—adequate? If not, what topics should be added?

3) Is there coverage you recommend be deleted? If so, why?

SEQUENCE

1) Within chapters, are topics (forms, etc.) logically sequenced?

LEVEL

1) What prior knowledge or course prerequisite would you assume for suitable use of the case studies manual?

2) Are terms introduced with adequate explanation?

3) Is the diction and overall style at a suitable level for students enrolled in the college special education program?

SELECTION, INTERPRETATION, AND USE OF MATERIAL

1) Is the information up-to-date?

2) Is the information accurate?

3) Does any of the material require further clarification or explanation (assumptions, tenets, etc.)?

continued

4) Would it appear that copyrighted sources are properly credited?

5) Are there any assumptions regarding role or sex stereotyping that should be examined?

YOUR PERSPECTIVE

1) Please list titles of courses in the special education curriculum that you feel would be appropriate for this manual.

2) Please briefly comment about the need for such a book—based either on your college teaching experience, field training of inservice personnel, legislation, etc.

Feel free, of course, to include any comments whatsoever that will help us improve the viability of this case studies manual. Many thanks for your assistance in this important stage of manuscript development.

APPENDIX C

SAMPLE SCORING SHEET FOR PRINT CRITIQUE

This evaluation form provides review data which can be easily tabulated and used for making revision decisions.

Directions for Use:

1. Read carefully the introduction of the material, pay close attention to its purpose and intended outcomes.

2. When viewing the material, place yourself in the shoes of the intended audience, and make some judgments about its apparent effectiveness.

3. Consider the design issues below in judging the effectiveness of this material. Circle the number in the boxes to the right which you feel is an appropriate score for each category.

	CONTAINS MOST OF THE DATA SPECIFIED IN THIS STATEMENT		CONTAINS SOME OF THE DATA SPECIFIED IN THIS STATEMENT		LITTLE OR NO DATA PROVIDED
A) Specific objectives for the material are stated in behavioral terms.	5	4	3	2	1
B) The format and activities appear to be consistent with the objective.	5	4	3	2	1
C) The intended audience is clearly identified.	5	4	3	2	1
D) The language used is appropriate for the intended audience.	5	4	3	2	1
E) Specific instructions on how to use the product are provided.	5	4	3	2	1
F) A rationale for development of the material is included.	5	4	3	2	1
G) A description of the scope and sequence of the material is included.	5	4	3	2	1
H) Evidence of effectiveness is provided.	5	4	3	2	1

APPENDIX D

SAMPLE TECHNICAL REVIEW SHEET

The following evaluation form was designed for use as a technical review of a video tape program.

Tape Number & Title _____

Yes	No	NA	
___	___	___	1. Is the Presentation logically sequenced? Suggestions: _____
___	___	___	2. Is there continuity between segments? Suggestions: _____
___	___	___	3. Is the script too wordy or too abrupt? Suggestions: _____
___	___	___	4. Is the style of the language consistent? Suggestions: _____
___	___	___	5. Are auditory components of adequate clarity and amplification? Suggestions: _____
___	___	___	6. Is the voice of adequate speed and quality? Suggestions: _____

Technical Review ***continued***

Yes	No	NA	
___	___	___	7. Is the quality of narration (reader style) acceptable? Suggestions: _____
___	___	___	8. Is the music/sound/voice mixing acceptable? Suggestions: _____
___	___	___	9. Is there an appropriate use of illustrations? Suggestions: _____
___	___	___	10. Is the visual presentation of acceptable sharpness and clarity? Suggestions: _____
___	___	___	11. Is the visual composition (format, arrangement) acceptable? Suggestions: _____
			12. Please comment on the quality of the following:

a. Staging: _____

b. Lighting: _____

c. Camera angle(s): _____

Additional comments:

APPENDIX E

SAMPLE NARRATIVE TEST REVIEW FORM

This questionnaire was designed to provide a general critique of tests.

I. PURPOSES

Please comment regarding possible uses for this test (i.e., use of results for assessment and placement of students, etc.)

II. ADEQUACY OF TECHNICAL DATA

Please comment regarding norming data, reliability and validity information.

III. ADMINISTRATION

Please comment regarding time considerations, training problems, scoring procedures, practicability of use, etc.

IV. GENERAL

Please comment regarding such issues as use of this test in relation to other instruments, formatting concerns, etc.

V. ADDITIONAL REVIEW COMMENTS

APPENDIX F

FIELD TEST PROCEDURES CHECKLIST

___ Types of field test sites identified.

___ Number of field test sites identified.

___ Product sections that you want evaluation data on are identified.

___ Methods of data collection are chosen.

___ Data collection instruments are designed.

___ Data analysis procedures for each step are identified.
—scoring procedure
—tabulation method
—criteria for indication of revision

___ Field test sites are contacted.

___ Contact people at each site are identified.

___ Field test arrangements are finalized.
—dates
—costs
—number of users
—commitments on both parts

___ Approval from impacted decision makers is obtained in writing.

___ Data collection procedures and dates are agreed upon

___ Users are trained or oriented to product.

___ Product delivery date and procedure is set.

APPENDIX G

CRITIQUE ANALYSIS MATRIX

The following matrix was designed to compile results from several different evaluation sources for use in making revision decisions. The product developer fills out the form by recording scores from each review in the appropriate boxes using the symbols indicated below:

▲ *results on this instrument indicated no need for significant revision*

○ *results were mixed*

■ *results called for revision*

COMPONENT PARTS	DATA COLLECTION METHODS				Summary Score
	User Reaction Sheet	Expert Review Sheet	Interview with Selected Users	Criterion Referenced Test Results	
Definitions	▲	▲	▲	▲	▲
Clarifying the Need	▲	○	▲	▲	▲
Creating the Product	▲	▲	▲	▲	▲
Critiquing the Product	○	▲	▲	○	▲/○
Changing the Product	○	▲	▲	■	○
Technical Aspects	■	■	▲	■	■